Investigating Black ASL: A Systematic Review

Andrea Toliver-Smith, Betholyn Gentry

INVESTIGATING BLACK ASL: A SYSTEMATIC REVIEW

THE AUTHORS reviewed the literature regarding linguistic variations seen in American Sign Language. These variations are influenced by region and culture. Features of spoken languages have also influenced sign languages as they intersected, e.g., Black ASL has been influenced by African American English. A literature review was conducted to investigate the existence of Black ASL and to document empirical studies on this topic. The included articles were (a) published between 1970 and 2012 in scholarly journals, (b) included a hypothesis, (c) described the participants, and (d) described the research design. Seven articles met the inclusion criteria. All seven addressed differences between Black ASL and mainstream ASL. Only a few research articles meeting the review criteria were revealed. This suggests that empirical research regarding linguistic variation in ASL is a field of study in its infancy and that continued exploration of this topic is needed.

ANDREA TOLIVER-SMITH AND BETHOLYN GENTRY

TOLIVER-SMITH IS AN ASSISTANT PROFESSOR, DEPARTMENT OF SPEECH PATHOLOGY, MARYVILLE UNIVERSITY, ST. LOUIS, MO. GENTRY IS A PROFESSOR, DEPARTMENT OF AUDIOLOGY AND SPEECH PATHOLOGY, UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES.

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Linguistic variation has been noted in all spoken languages. These variations are observed across all five domains of language (phonological, morphological, semantic, syntactic, and pragmatic). The variations that are present are often influenced by geographic and social isolation. In the United States, distinct dialects are spoken such as African American English, Southern English, Spanish-Influenced English, and Appalachian English Vernacular. Since signed languages share the same domains as spoken languages, certain features of spoken languages have influenced signed languages as they have come in contact with each other (Cormier, Schembri, & Woll, 2010). Although both signed and spoken languages are influenced by each other, Evans and Levinson (2009) propose that the universals of language actually ignore the existence of signed languages despite the fact that they are rich with linguistic diversity. It has been proposed that American Sign Language (ASL) has been influenced by African American English, which has influenced the development of a dialectal variation called Black ASL. Further empirical research in this area is needed to document the existence of Black ASL and to

describe the linguistic differences found between Black ASL and ASL. In the present article, we explore existing empirical research on Black ASL, as well document the differences found between Black ASL and ASL.

Historically, signed languages were not looked upon as true languages. Once it was finally established that signed languages were indeed languages with a specific structure and linguistic rules, differences were studied by linguists who specialized in signed languages (Stokoe, Casterline, & Croneberg, 1965). ASL evolved from a mixture of French Sign Language and sign systems already in use by Deaf people in the United States, through a collaboration between Laurent Clerc and Thomas Gallaudet during 1815–1816 (Lucas, Bayley, & Valli, 2001). ASL is a robust language that changes over time, and these changes are influenced by geographic and social isolation, just as is the case for spoken languages.

ASL is a visual and spatial language with a linguistic structure that differs from that of English in numerous ways. Intensity of signs, use of space, and other nonverbal modalities are an integral part of the language. For example, when a person, place, or thing is being talked about, an imaginary area is set up in space and it then becomes a referent. Subsequently during conversation, this location regarding the person, place, or thing will be referred to with a slight nod or point toward that particular area (Friedman, 1975). This type of linguistic form is also noted in contrastive sentence structure. If we set "Don" on the left and "Debbie" on the right, they can be easily referred to with a smooth transition by merely nodding or pointing to that area. The signer may point to the area on the left, indicating that the conversation is about Don, then continue to give information about him. The structure of ASL is such that the "topic" is presented first, followed by "comment," a sequence different from what is usual in spoken English. There are no markers such as "the" and "a" used in ASL. "Wh–" questions are signed at the end of sentences, not at the beginning. Verb tense is not indicated within the sign itself, but in the temporal sign marker, which is signed before or after. Signs such as "future," "past," and "now" are considered temporal markers and do not affect the production of the other signs (Friedman, 1975). This is an exception to the normal ASL rule that the topic comes first: The temporal marker comes first, then the topic, then the comment regarding the topic. Often, at the end of a sentence in this format, the sign for "finish" is produced. This also indicates that the action has been completed. Just like spoken language, ASL is a dynamic language with a rich historical background that grows and changes with use, producing variations.

Historical Background of ASL

The sign systems used by Deaf people in the United States were initially influenced by French Sign Language and eventually evolved into ASL. This is the language Laurent Clerc and Thomas Gallaudet used to educate deaf students. In 1817, Clerc and Gallaudet opened the American School for the Deaf in Hartford, CT. ASL, this "language of signs" (Lucas, 2001, p. 54), was taught to students as well as to teachers of deaf students. These teachers took the new method to their residential schools in various regions of the country. It was in this manner that the language was disseminated throughout the United States. ASL has become the "official" language of the Deaf community in the United States. Like any language, it contains variants that are based on region and culture that are called dialects. Dialectal variations within ASL are not necessarily "labeled," but are duly noted (Lucas, 2001).

Dialectal Variations of ASL

As previously stated, dialectal variations of ASL are noted in all linguistic domains. These domains include syntax, semantics, pragmatics, phonology, and morphology. Table 1 shows the correlations between spoken languages and signed languages, in this case English and ASL. In ASL, syntax is indicated by the sequence or linguistic structure of the signs used. Semantics is indicated by the choice of signs used when the meaning of a word or phrase is being conveyed. Pragmatics is indicated by intent, which may be represented by the intensity and size of the signs used, along with the body positions used. Phonological aspects of ASL include handshape, palm orientation, movement, location, and nonmanual markers. Finally, morphological aspects are indicated within the movement and handshape of the signs produced. Although, the phonological and morphological categories of spoken language may not be the best description of what is actually happening in the production of ASL, they have been adequate for research purposes and to establish ASL as a true and viable language (Cormier et al., 2010).

There is a slight mismatch between spoken and signed language domains in that all languages are not built to the same common pattern (Evans & Levinson, 2009). This mismatch can be specifically seen in phonology and morphology; the other three domains (syntax, semantics, and pragmatics) have more exact correlations. Since spoken and signed languages are two different modes of communication, it is necessary for linguists to develop an adequate system for describing the domains of signed language. Now that signed languages have been accepted

Table 1

Five Domains of Spoken Language as They Relate to Signed Languages

Domain	Spoken (English)	Signed (American Sign Language)
Syntax	Sequence of words/sentence structure	Sequence of signs used
Semantics	Choice of words used to convey meaning	Choice of signs used
Pragmatics	Intent of words used/paralinguistic features	Intent
		Intensity of sign
		Body positions
Phonology	Organization of sounds	Handshape
		Palm orientation
		Movement
		Location
		Nonmanual markers
Morphology	Rule-bound structure of words	Movement
		Handshape

as "real" languages, an adequate system for proper analysis should be established so that diversity among signed languages may be observed and documented, not just surmised.

Research on ASL was pioneered by William Stokoe, Dorothy Casterline, and Carl Croneberg (1965) with their *Dictionary of American Sign Language on Linguistic Principles.* Croneberg (1965) went on to produce an appendix to the dictionary, "The Linguistic Community," which describes the social and cultural aspects of Deaf culture. This led to the idea that just as English has its standard version, ASL has a standard version as well. Croneberg introduced readers to the regional dialects within ASL, which were later determined by Lucas, Bayley, and Valli (2001) to be both vertical and horizontal. *Horizontal* dialects are based on the various regions within the country, while *vertical* dialects are considered variations that exist due to the social stratifications between groups. Numerous accounts of sign language variation have been reported since the 1960s (e.g., Corina & Sandler, 1993; Cormier et al., 2010; Croneberg, 1965; Washabaugh, 1981; J. C. Woodward, 1973). Most of these accounts involve lexical, phonological, and prag-

matic language variations. They all agree that variation in signed languages is subject to multiple linguistic and social constraints.

Black ASL

The concept of Black ASL is not a novel idea; in fact, it has been noted that some African American signers produce ASL in a somewhat different manner than their mainstream counterparts. Most users and observers of ASL agree that there are variations between signers of different cultures, ethnicities, and regions. Although African American Deaf individuals are considered part of Deaf culture, they are also a part of African American culture in America. Since most Black deaf children are born to hearing parents, it stands to reason that they will be part of the Black culture as well and will exhibit linguistic characteristics of that culture. They may be deaf or even Deaf, but they cannot change their membership in the Black culture. In a 2010 presentation, Mc-Caskill, Hill, Lucas, and Bayley noted that African American English (AAE) intersects with ASL to form Black ASL. They suggested that many Deaf African Americans exhibit features of AAE as a result of the contact between these two languages.

One noticeable feature is that African American signers tend to use signs that are larger and more expressive. Hill, McCaskill, Lucas, and Bayley (2009) refer to this phonomenon as "signing outside the box," and report that this is something many African American signers do consistently. The signing space is an area in front of the signer that is an imaginary "box" shape that encompasses the face and center part of the chest where the signer is expected to sign. Among African American signers, this "box" is often larger or expanded, which makes it somewhat difficult to follow if their communication partner is not privy to this type of signing (Hill et al., 2009).

The American Speech-Language-Hearing Association (2011) describes Black culture as a "high context/high verbal" culture, and this attribute is echoed in Black ASL. While taking several ASL classes, one of us observed that African American hearing students who were enrolled in those courses naturally used paralinguistic features of Black culture (e.g., body movements, exaggerating facial expressions, and stylistic differences) that caused them to gain points in filmed assignments. Many African American people are very expressive, so it was perfectly natural for the hearing students to do this.

While many believe in the existence of Black ASL, there has been little empirical evidence to support this claim. Consequently, some professionals doubt its existence, while others embrace it. Toliver-Smith and Rogers (2008) examined this issue by conducting private interviews with two professionals who had expertise in ASL and were part of both the Black and Deaf communities.

The first interview was done in 2008 with Dr. Ernest Hairston, an education research analyst at the U.S. Department of Education in the Office of Special Education Programs and a

coauthor of *Black and Deaf in America* (1983). Dr. Hairston stated that in his opinion there was not a Black ASL, only regional differences, nonverbal differences, and slang. In another interview in 2008, with Dr. Carolyn McCaskill, a professor in the Department of American Sign Language and Deaf Studies at Gallaudet University and a coauthor of *The Hidden Treasure of Black ASL* (2011), the phenomenon of Black ASL was discussed. Dr. McCaskill asserted that Black ASL does exist, and offered the following explanation:

Black ASL was realized as a difference during the segregation era, when Deaf African American students were educated separately from mainstream students. Starting in 1869, many states such as Alabama, Maryland, Florida, Kentucky, Louisiana, North Carolina, South Carolina, Tennessee, Texas, Virginia, and West Virginia established Deaf Schools for the Colored. Other states simply opened a "Colored Department" in their already established schools for the Deaf. The Kendall School in Washington, DC, allowed the integration of African American students in 1952 by court order. Louisiana was the last state to integrate African American students, in 1978. African American children attended separate educational programs that were either in separate buildings or on different campuses for nearly 100 years. This may have led to the development of a Black dialect of ASL. (McCaskill, 2008)

Other researchers have recognized that Black ASL does exist and has been influenced by AAE. The communication styles of Black culture have been recognized in African American ASL signers. McCaskill et al. (2010) have reported that the influence of AAE is noted in the production of ASL by African American signers. Some features of Black culture are noted in the areas of semantics and nonverbal aspects of ASL. Although African American signers use the rules of ASL, they modify them to suit the cultural and stylistic expression of the Black community. The use of many words and expressions in AAE has crossed over into the Black Deaf community. Those lexical items from AAE that are prone to crossover are signs that pertain to race, the continent of Africa, and pejoratives. Expressions such as "Stop tripping," "My bad," and "Girl please" have made their way from AAE into Black ASL (McCaskill et al., 2010). Nonverbal aspects that influence Black ASL include several features of AAE and Black communication styles. Features such as rhythmic head shaking, finger snapping, high-fives, talk to the hand, head/neck movements, and hands on the hips have all been observed in African American signers (McCaskill et al., 2010). Also, as previously mentioned, African American signers have often been critiqued as using too much expression or using too large a signing space.

Toliver-Smith and Rogers (2008) further examined the existence of Black ASL from the interpreter perspective with Jeff Bowden and John G. Lewis, African American interpreters for the Deaf. Once again, the expressive nature of African American signers and the features used during communication were reiterated. Although Bowden and Lewis are not deaf, they are an important part of the Deaf culture and interact with signers from all ethnic backgrounds. Both interpreters maintained that there were differences between African American and mainstream signers. Bowden, who has been an interpreter in the Washington, DC, area for over 20 years, indicated that he adjusted his signing style for African American clients. He said,

This is extremely important when interpreting in an artistic manner. The essence of the music and/or the characters in plays must be adequately presented. This is often difficult for interpreters that are not familiar with the Black culture in the United States. (Bowden, 2008)

Lewis was the interpreter services manager for Sorenson Relay Services at Gallaudet University and was also one of the editors of *Black Perspectives on the Deaf Community* (Fuller, Hollrah, Lewis, & McCaskill, 2005). He expressed the need for more African American interpreters because of mainstream interpreters' lack of experience with Black ASL. His advice to mainstream interpreters was

to make an effort to become familiar with Black culture and be more receptive to your client's use of dialectal features. Many African American signers take pride in using words and expressions from African American English and may use the "N-word," which may be uncomfortable for interpreters. Interpreters should strive to obtain a historical and cultural perspective of the deeper or alternative meanings of words, phrases, and expressions. (Lewis, 2008)

Brockway (2012) addresses the issue of Black ASL from a linguistic point of view, stating that there is a Black ASL, referred to as BASL, which is similar to African American English. Brockway further maintains that "by analyzing BASL on the lexical, phonological, morphological, syntactic, and semantic levels, researchers reinforce the authenticity of ASL as a language." Documentation of BASL is one of the only examinations, though the most thorough, of sociolinguistic variation in ASL.

Some scholars have observed or commented on the phenomenon of

Black ASL, but this information is mostly nestled in book chapters (Anderson, 2002; Armaburo, 1989; Brooks, 1996; Guggenheim, 1993) or non–peer-reviewed publications (Azodeh, 1994; McCaskill, 2012). Although this information is valuable and contributes to knowledge of Black ASL, it appears to be based mostly on observations, conference proceedings, and anecdotes that are somewhat dated. We found few published empirical studies in the scholastic literature that involved methodical investigations of Black ASL. The lack of research studies may create a problem for other professionals who are interested in obtaining access to information regarding Black ASL, which may be helpful to research, the management of rehabilitation activities, the education of African American Deaf students, or work with African American Deaf adults.

The purpose of the present study was to provide a systematic review of the literature that documents current experimental studies on the topic of Black ASL. The study addressed the following research questions:

1. Is there scholarly evidence that African Americans signers present with a dialectal variation of ASL?
2. How many experimental studies documenting Black ASL exist in the scholarly literature?
3. What are the linguistic differences between Black ASL and ASL reported in the literature?

Method

The systematic review was a literature review focused on one or more research questions whose purpose was to identify, appraise, select, and synthesize all high-quality research evidence directly relevant to the research questions. The goal of the review was to produce an exhaustive summary of the literature. The Cochrane Group provides a handbook for systematic reviewers that provides guidance to authors completing and maintaining these types of studies. This method was chosen because it provides clear and stringent guidelines, has a history of promoting evidenced-based research through the use of systematic reviews, and is highly regarded in various allied health fields.

The *Cochrane Handbook for Systematic Reviews of Interventions* (Higgins & Green, 2011) outlines a seven-step process for preparing a systematic review: (1) formulating a problem; (2) locating and selecting studies; (3) critically appraising studies; (4) collecting data; (5) analyzing and presenting results; (6) interpreting results; and (7) improving and updating reviews. We conducted a systematic search using the first six steps outlined in the *Cochrane Handbook*. The seventh step was not followed, as the present study was an initial study that lay the groundwork for future studies of this nature.

Studies were initially considered for the review if (a) they were published in a peer-reviewed journal between 1970 and 2012; (b) they were written in English; and (c) they contained original data that addressed one or more of the research questions included in the present study (acknowledged the existence of Black ASL and/or made linguistic comparisons). Studies were considered experimental if they included (a) participants and their descriptions, (b) a method of data collection, (c) comparisons between groups, and (d) a conclusion. Studies that were presented in books, on websites, or in magazines or other non–peer-reviewed journals were excluded.

Electronic databases using keywords related to Black ASL (i.e., African American signers, sociolinguistic varia-

tion in ASL, Black American Sign Language) were extensively explored. Three electronic databases were searched: Ebsco Host (Social Index, Academic Search Complete, and PsychInfo), JSTOR, and World Cat. Reference pages from *The Hidden Treasure of Black ASL: Its History and Structure* (McCaskill, Lucas, Bayley, & Hill, 2011) and an annotated Black ASL reference list provided by Dr. Carolyn McCaskill were also examined. An electronic search of the journals of the American Speech-Language-Hearing Association was also conducted: *Language, Speech, and Hearing Services in Schools*; *Journal of Speech, Language, and Hearing Research*; *American Journal of Speech-Language Pathology*; and *American Journal of Audiology*. Additionally, a manual search of references from all relevant articles was completed.

The search was narrowed by including studies that met the following criteria:

- included participants and/or experimental comparisons
- included descriptions of the characteristics of Black ASL
- addressed one or more of the research questions

The final selection of articles was made by determining if the above criteria were met.

Quality Indicators

The two authors, blinded to one another's results, assessed each study for quality indicators (with 100% agreement) in the following areas: study protocol, sampling, group similarity, significance, and precision (see Table 2). These quality indicators were modified on the basis of an article by Cirrin et al. (2010) that addresses evidence-based systematic reviews. Each study received a quality score that was deter-

mined by a 1 or 0 score in each area, indicating the absence or presence of quality markers. Each article could obtain a maximum score of 5 or a minimum score of 0. Each article was critically appraised by the authors, and any discrepancies in ratings were resolved via consensus. If the two authors could not reach consensus, a third rater was consulted. This procedure was followed until 100% agreement was reached.

Results

In the present study, a systematic review was used to circumvent possible discrepancies between studies. Not all studies that were included in the final review were designed and conducted equally. An assessment of the quality of the design is important to researchers as they review published research. In the present study, we identified study protocols, sampling, group similarity, significance, and precision as important quality indicators to make parallel comparisons between different types of articles using a systematic review. The results for each research question are presented below.

Is There Scholarly Evidence That African American Signers Present With a Dialectal Variation of ASL?

The first research question was answered after an exhaustive review of the literature and the application of our inclusion criteria. The final analysis affirmed that African American signers present with a dialectal variation of ASL. J. C. Woodard and J. Woodard (1976) reported that dialectal variations do exist between African American signers and White signers in the southern region of the United States. Maxwell and Smith-Todd (1986) determined that African Americans use a dialectal variation of ASL, which was confirmed by interviews of both African
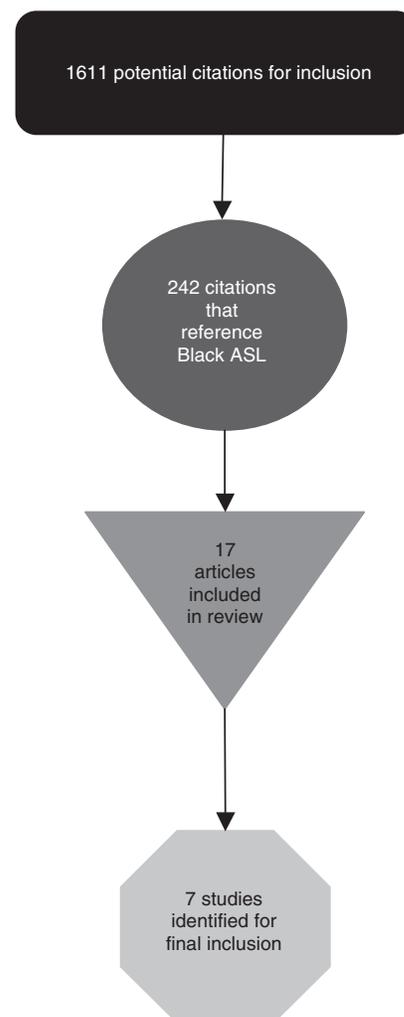
Table 2
Quality Assessment Indicators

Marker	Description
Study protocols	• Adequate description of study/protocol
	• Inadequate description of study/protocol or not stated
Sampling	• Random sample adequately described
	• Random sample inadequately described
	• Convenience sample/handpicked sample/or not described
Group similarity	• Groups the same in all important ways
	• Adequate description of subjects
	• Inadequate description of subjects
Significance	• *p* value reported or calculated
	• *p* value neither reported nor calculable
Precision	• Effect size and confidence interval reported or calculated
	• Neither effect size or confidence interval reported or calculable

American and mainstream teachers who were called upon as consultants for their study. In five articles that were a part of a larger study, 53 African American signers and 154 White signers were compared on various linguistic aspects of ASL. Although there were linguistic differences noted in these articles, they were mainly attributed to regional differences, Deaf history, the conservative nature of Black ASL, and the social structure of the Deaf community. It was interesting to note that all of the articles harked back to the *Dictionary of American Sign Language* (Stokoe et al., 1965) as an initial reference. This dictionary contains appendices that reflect the earliest documentation of dialectal variation in African American signers. In the 1960s, when the dictionary was assembled, these variations were not considered a "dialect," but were merely noted as possible differences in the sign language community.

How Many Experimental Studies Documenting Black ASL Exist in the Scholarly Literature?

After a systematic review of the literature related to Black ASL, we were able to identify seven studies that met our inclusion criteria. As shown in Figure 1,

Figure 1

Flow Chart Depicting How Articles Were Chosen for Inclusion in the Review

1611 potential citations for inclusion

242 citations that reference Black ASL

17 articles included in review

7 studies identified for final inclusion

Note. ASL = American Sign Language.

a total of 1,611 articles were retrieved as part of the broader search examining Black ASL. A total of 1,369 articles did not refer directly to the dialect of Black ASL or African American signers and were excluded (i.e. article could have mentioned the color black and ASL within the same text). We reviewed the abstracts and identified 242 articles that made direct reference to Black ASL. Books and nonscholarly articles were then eliminated, a process that resulted in a total of 17 peer-reviewed articles that were identified for possible inclusion. Of these, only 7 studies addressed one or both of the research questions related specifically to the present study, based on our review of the abstracts of the articles.

In keeping with systematic review protocol, we evaluated each quality indicator for all seven studies. The overall group study received an average of 2.8 out of 5 possible appraisal points (range = 2–4). The seven articles and their appraisal scores are listed in Table 3. Below, all seven articles are described in chronological order, their statistical analyses discussed, and content summarized.

Article 1: J. C. Woodward and J. Woodward (1976)

"Black Southern Signing," by J. C. Woodward and J. Woodward, was the first study to explore sign language variation between southern Deaf individuals from the African American and White communities. The participants were from Atlanta, GA, and New Orleans, LA. The total number of participants was 75, of whom 35 were Black and 40 White. The informants were asked to respond to a questionnaire that asked about the variants of certain signs they used. They were required to identify themselves by three social variables, residence, age, and race, and were then divided into groups based on these demographic attributes. Videos were also viewed to clarify the variants, but were not used in the study. The results in the categories of signs produced in Face-to-Hand Variants and 2-Hand to 1-Hand Variants were compared. Significance was found between all variables in the Face-to-Hand variants and only between race and age in the 2-Hand to 1-Hand Variant; however, there were not enough older Black informants to es-

tablish significance in this category. The authors concluded that there were differences between Black signing and White signing on the lexical and phonological levels. On the basis of the finding that attitudes toward the use of Black ASL were negative, the authors were uncertain about the future of Black ASL. Consequently, they asserted that the varieties of Black ASL could either continue or cease to exist.

Article 2: Maxwell and Smith-Todd (1986)

Ten years after J. C. Woodward and J. Woodard (1976) published their study, Maxwell and Smith-Todd (1986) investigated differences between adult Deaf Black individuals educated before integration and adolescent Deaf Black individuals educated since integration. There were 19 participants: 9 adult Black signers and 10 adolescent Black signers. The signs used were the same sign corpus as in the study by J. C. Woodward and J. Woodward for the phonological aspect. Black signs that were considered to be specific to Austin, TX, were used in the lexical variation aspect. The participants were

Table 3

Summary and Appraisal Points of Articles Reviewed

Author(s)/year of publication	Description of participants included?	Data collection method	Ethnicity comparisons made?	Conclusion provided?	Future research identified?	Quality indicator score
J. Woodward & J. C. Woodward (1976)	Yes: limited description	Survey, interview, video review	Yes	Yes	Yes	2
Maxwell & Smith-Todd (1986)	Yes	Video: elicitation tasks, interviews with consultants	Yes: between consultants, not participants	Yes	No	2
Bayley, Lucas, & Rose (2000)	Yes	Video: interviews and elicitation tasks	Yes	Yes	Yes	4
Lucas, Bayley, Reed, & Wulf (2001)	Yes	Video: interviews and elicitation tasks	Yes	Yes	Yes	2
Bayley, Lucas, & Rose (2002)	Yes	Video: interviews and elicitation tasks	Yes	Yes	Yes	3
Lucas, Bayley, Rose, & Wulf (2002)	Yes	Video: interviews and elicitation tasks	Yes	Yes	Yes	3
Lucas & Bayley (2005)	Yes	Video: interviews and elicitation tasks	Addressed in a previous article	Yes	Yes	3

all presented with the written English word individually and video-recorded while they produced the signs. Their responses were analyzed according to the lexical and phonological patterns that were yielded in the results. The findings indicated that both the adults and the adolescents used more Face-to-Hand Variants and that the adolescents used fewer 2-Hand to 1-Hand Variants than the adults. It was also noted that none of the adolescents used any of the Austin Black signs, although they recognized them.

The second phase of the study involved interviews with Black and White teachers of the Deaf to determine how these differences were perceived by educators. A total of 17 hearing teachers were interviewed: 6 were teachers at the integrated school, 7 were former teachers at the segregated schools only, and 4 had taught in both. All of the teachers believed that there were differences between the signs used by Black Deaf adults and Black Deaf adolescents. It was interesting to note that only one of the White teachers cited segregation as a contributing factor to differences. However, two Black teachers recalled instances in which the differences in signs used between Black and White students became more apparent after integration. Furthermore, the teachers reported that they had difficulty understanding the signs of older Black Deaf adults. They surmised that educational history also played a part, which would support the deduction by J. C. Woodard and J. Woodard (1976) that age may have an impact on differences, since more of the older adults were educated in a segregated environment.

Article 3: Bayley, Lucas, and Rose (2000)

A study of variation in ASL conducted by Bayley, Lucas, and Rose (2000) was the first of five studies that drew upon a comprehensive body of information collected from a single large group of participants. The study involved the production of the sign DEAF between ASL signers. Signers from various areas of the United States (the states of Virginia, Maryland, California, and Washington, and the cities of Boston, MA, Kansas City, MO, and New Orleans, LA) with thriving Deaf communities participated in this study. A total of 207 participants were divided into groups on the basis of age (15–25, 26–54, and 55+ years), social class (working and middle), gender, ethnicity (African American and White), and language background (ASL/other).

Sessions were divided into three parts: (a) Participants engaged in 1 hour of free conversation; (b) two participants were selected from each group and interviewed about their backgrounds; (c) the participants engaged in an elicitation task in which they were shown pictures and asked to supply the signs. The interviews and elicitation tasks were all video-recorded; the results were reported elsewhere. The participants who were chosen included 53 African Americans and 87 Whites. The same participants took part in five of the seven studies that are discussed in the present article.

In the study by Bayley et al. (2000), production of the sign DEAF was extracted from the free conversation and interview sessions described above. A multivariate analysis revealed that only age and region contributed significantly to the variation. None of the other social factors were statistically significant, indicating that race was not a factor in the production of the sign DEAF.

Article 4: Lucas, Bayley, Reed, and Wulf (2001)

The results of the elicitation task in the study by Lucas, Bayley, Reed, and Wulf (2001) involved the responses of signers using 34 word stimuli. The findings revealed that African Americans signed 28 out of 34 signs differently from their White counterparts. The results further indicated that there are clear lexical differences between African American signers and White signers. Although both African American and White signers produce phonological differences in their signing, the authors noted that it is important to distinguish actual phonological differences from stylistic differences and lexical innovation.

Article 5: Bayley, Lucas, and Rose (2002)

Bayley, Lucas, and Rose (2002) researched phonological variation in the use of ASL, with a focus on the use of the "1" [the number one] handshape and its variations. Handshape is considered to be the phonological domain in signed languages. Videos from the interviews were analyzed. The results indicated that there were five different types of "1" handshape variants used by the participants. Age, social class, ethnicity, region, and language background all had statistically significant effects on the use of the variants. Variants were often produced on the basis of the grammatical situation (sentence configuration) in which the sign was used. It was also noted that African American signers tended to favor the older forms of the sign.

Article 6: Lucas, Bayley, Rose, and Wulf (2002)

Location variation in sign production was the focus of a study by Lucas, Bayley, Rose, and Wulf (2002). A multivariate analysis of the data from the interviews was conducted. The authors found that gender, region, age, language background, and ethnicity by social class (i.e., middle and low socioeconomic status) all significantly affected location variation in signs. Overall, African American signers did

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not prefer the lowering of signs. However, differences of preference were noted between middle-class and working-class signers.

Article 7: Lucas and Bayley (2005)

Lucas and Bayley (2005) provided insight into the role of grammatical function in ASL. There were no new results revealed, just a compilation and summation of the previous articles. Modality differences between spoken and signed languages were noted, but ASL was found to have more in common with languages that do not use affixes, such as Chinese. The visual nature of ASL was found to have an effect on the variance that is represented in signed languages. This finding adds emphasis to the idea that the modifications observed between ASL and Black ASL are systematic and not random.

What Are the Linguistic Differences Between Black ASL and ASL Reported in the Literature?

As previously stated, linguistic variation can occur in all domains of language. In this case, all of the articles pointed to the semantic domain or "lexical" differences as the foremost difference between Black ASL and standard ASL. J. C. Woodward and J. Woodard (1976) reported that dialectal variations do exist between African American and White signers in the southern region of the United States. These dialectal variations were shown to exist in the lexical realm. Maxwell and Smith-Todd (1986) did not make a direct comparison between African American and White signers; rather, they compared narratives from both African American and White teachers regarding the language used by their African American students. Additionally, comparisons were made between younger and older African American

signers, who were found to use different signs. Maxwell and Smith-Todd concluded that these differences were mostly due to the type of education (segregated vs. mainstreamed) received by these individuals. Their findings revealed that there are indeed differences between African American and White signers, as well as between African American signers by age group. These differences were noted in the lexical realm between both ethnic and age groups.

Lucas, Bayley, Reed, and Wulf (2001) made comparisons between African American and White signers and found mostly lexical and stylistic differences. In their study, 34 signs were targeted, and the African American signers produced 28 of those signs in a different manner. Either the signs were modified or a completely different sign was used for the targeted words. Although these differences were noted between African American and White signers (e.g., African Americans were found to prefer two-handed variants of the signs DEER and RABBIT), regional differences between signers were also noted.

Discussion

The results of our systematic review indicated that there were few studies that adequately investigated and acknowledged Black ASL. It is a widely accepted concept that African Americans use ASL in a different manner, but this phenomenon was not adequately described or documented until recently. A systematic review of the seven articles that met our criteria provided sufficient evidence to support the existence of Black ASL and described the linguistic differences between Black ASL and ASL. Although linguistic differences do exist, the literature gives an incomplete depiction of these differences. Since adequately describing ASL using all of the parameters for spoken language is difficult, it is not

surprising that researchers would find it difficult to adequately describe the differences between ASL and Black ASL using the same parameters. When linguistic parameters are overlaid onto signed languages, certain features are easier to compare, while others are more difficult. Specifically, it is easier to utilize syntax, semantics, and pragmatics when describing and comparing ASL and Black ASL. More difficulty occurs when signed languages are described by means of the parameters of phonology and morphology, which appear to overlap in certain areas involving handshape. However, it was not uncommon for the studies we identified to examine linguistic variation in phonology and morphology in terms of handshape. These studies found differences between Black ASL and ASL signers. In summary, the literature reveals that Black ASL does exist as a dialect of ASL. The dialectal characteristics are more pronounced in the domains of semantics (choice of sign used), pragmatics (paralinguistic features), and phonology (orientation of sign). However, the best method to describe the phonological and morphological characteristics of signed languages has yet to be agreed upon by researchers.

The validity of a universal set of characteristics that are common to all human languages was questioned in a study by Evans and Levinson published in 2009. These researchers noted that many sign language linguists agree that signed languages contain both traditional linguistic properties and nonverbal properties. The following year, Cormier et al. (2010) published a study that supported the findings of Evans and Levinson. We suggest that these distinctive nonverbal properties have been downplayed in order to make sign language "fit" into the linguistic norms for spoken language. Historically, much of the early research involv-

ing signed languages was done to provide evidence that the signed languages were indeed real languages (Cormier et al., 2010). In doing so, researchers tended to force the aspects of signed languages into the confines of spoken languages. In fact, Cormier et al. urged that linguists "be careful in applying terminology from one language/language family/modality to another and to consider the appropriateness and usefulness in doing so" (p. 2666) when conducting research. In our opinion, the present review revealed the need for more empirical research in the area of sociolinguistic variability and a specific system for describing signed languages.

Since the present study was completed, Lucas, Bayley, McCaskill, and Hill addressed the topic of Black ASL in an article published in 2013. Their results further supported our own findings, in that they concluded that Black ASL does exist and that African American signers do exhibit lexical differences, along with phrases and gestures from AAE. The latter finding is in stark contrast with what is known about these signers' White counterparts. It is encouraging to note that future systematic reviews in this area will have access to the valuable information from the study of Black ASL by Lucas et al.

Implications for Professionals
African Americans who are Deaf represent a double minority group. Individuals who are double minorities (in this case, Deaf and African American) often face economic disparities and educational challenges. It is imperative that professionals who provide services to these individuals make an effort to become familiar with both the Deaf and African American cultures. Interpreters and educators have a unique responsibility, as they serve this population in all walks of life. They should have a his-

torical and cultural perspective on deeper or alternative meanings of words, phrases, and proverbs. If these are not presented in the correct manner, these may be viewed as offensive if altered from the original form. Service providers should also be aware of the different signing styles (i.e. signing outside the box, rhythmic and nonverbal features) associated with African American signers. Educators should be more receptive to their students' use of dialectal features and should take care not to penalize students for their usage. Although members of Deaf culture often have difficulty in the area of literacy, storytelling is a vibrant, highly valued part of African American culture. Therefore, storytelling could be used to reinforce literacy activities. Finally, many Black Deaf signers take pride in using words and expressions from AAE, so educators and interpreters should take care to support the inclusion of these expressions in their interactions.

Limitations of the Present Study
We have identified four limitations of the present study that warrant consideration. First, only articles published in English were included in our review. It is possible that there are studies addressing the topic of linguistic variations in other signed languages that were not identified. Second, many of the identified studies that referred to Black ASL were excluded because they were not experimental studies or had not been published in peer-reviewed, refereed publications; this resulted in a smaller number of articles meeting the criteria for review. Third, of the seven articles selected for final review, five involved the same participants and the same data set. Finally, the variation across the studies regarding the experimental procedures and the repetition of the data in five of the studies meant

that there was no common denominator on which to base the evaluation of outcomes or with which to conduct a comparative analysis of effect sizes.

Future Research
The present systematic review was a necessary step in the process of acknowledging and adequately describing sociolinguistic variations in Black ASL. A confounding factor of the review is the fact that most of the observations involving Black ASL are in non–peer-reviewed books or in unpublished works. *The Hidden Treasure of Black ASL* (McCaskill et al., 2011) exemplifies the type of studies that should be included in peer-reviewed journals. This book features participants from several states and focuses specifically on Black ASL. Its findings have made a significant contribution to knowledge of the history and structure of the dialectal variations among African American signers. Additionally, sociolinguistic variation in ASL should be explored among other cultural groups. Because of the changing demographics of the U.S. population, knowledge of cultural diversity is a necessity for service providers. Dialectal variations that are specific to growing cultural groups should be addressed in future studies. More evidence to document regional variations should also be obtained and examined to assist interpreters and relay services in accommodating signers from across the country. Along with further empirical research in these areas, an adequate description of the linguistic domains for signed language is needed to better describe variations in ASL.

Note

cle should be addressed to Betholyn Fay Gentry, Department of Audiology and Speech Pathology, University of Arkansas at Little Rock, 2801 S. University Ave., Little Rock, AR 72204. E-mail: gentrybetholynf@uams.edu—*The Authors*

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*Denotes an article included in the review.

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